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INDIVIDUAL LEARNING VERSUS GROUP LEARNING IN A SUBURBAN
SECOND-GRADE CLASSROOM

By
Devonn Grimm

A Thesis

Submitted in partial fulfillment of the requirements of the Master of Arts Degree
of

The Graduate School

at

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Approved by _____

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ABSTRACT

Devonn Grimm

Individual Learning Versus Group Learning in a Suburban Second-Grade Classroom
2003/04

Dr. Klanderman and Dr. Dihoff
Master of Arts in School Psychology

There has been a great debate about which learning style is the best for all students. Some propose that individual learning situations enhance the education a student is receiving. However, perhaps a group learning environment would help inclusion and special education students, as well as their average or above average peers. Research indicates that there are benefits and drawbacks to each different teaching style. The present study investigated the difference between group and individual learning styles and their impact on students' individual academic scores. A single second-grade classroom containing many types of students was manipulated and observed. For eight weeks the teacher taught science either individually as a lecture-based instruction, or cooperatively as students worked together in groups. Individual grades on weekly tests were analyzed using a T-test. Results indicated a significant difference in students' grades between the two conditions. Furthermore, the group learning condition yielded better grades than did the individual learning condition, with a mean difference of approximately fifteen percentage points.

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Chapter 1

Need

The rationale for this study was to add to the literature that debates the advantages of different learning methods. Some studies have supported individual learning as a more successful technique than cooperative learning. Many other studies have maintained that cooperative learning has a better impact on students' achievements.

There was a need for more research to be done on cooperative learning at the elementary education levels. Many of the published studies focused on learning at or around the college level. Studying the second grade level allowed for a greater age range for studies conducted in this area. Therefore, generalizations about the whole population can be expanded when more people at different grade levels are studied.

Furthermore, there was a great need for research to be performed on the learning abilities of students in inclusion classrooms. The interaction of classified and non-classified students together has not yet been deeply examined. This study analyzed the learning styles of both children with behavioral, emotional, social, and academic problems, and students without these labels.

Purpose

The purpose of this study was to examine two different approaches to learning. The cooperative learning style was compared to individual learning. Individual academic achievement was explored as a result of these different teaching methods.

Interactions between classified and non-classified students were studied during group learning. The purpose was to see if social interaction and group problem solving increased academic skills.

Findings from this study can support certain teaching and learning methods for schools and teachers. Group learning may be implemented more often as a result of more positive research results in this area. It is the aim of this research to back a successful way to help students learn.

Hypothesis

The hypothesis is that individual academic scores are higher after learning occurs in groups compared to individual learning atmospheres. During an eight-week study involving alternating forms of group or individual learning, it was expected that many student would score higher on their exams after the group learning has occurred. The null hypothesis states that there is no difference in academic performance after cooperative learning versus independent learning.

The dependent variable in this study was the individual academic scores on weekly exams. The independent variable was the style of learning. The independent variables included cooperative learning versus individual learning.

Theory

Michaelson originally designed the team-learning model for large college classrooms of one hundred or more students. He theorized that attendance and performance would increase due to peer pressure. He found that cooperative learning

resulted in high performance in academics by most of his students. He also saw an increase in attendance when he implemented his team-learning model.

Michaelson believes that the most effective factor in creating group cohesion is the idea of competition. He found that in-group cohesion and competition with out-groups increased good grades for most of his students. He supports that competing with other groups was a main motivator for carrying out schoolwork because most humans strive to be the best when compared to others.

A theory that supports group learning that has different ideas than the team-learning model is Lave's situated learning theory. Situated learning is defined as learning as a function of the activity and context in which it occurs. Lave believes that social interaction is one of the most critical components of learning and that students should practice together to acquire certain behaviors and beliefs. According to Lave, learning requires collaboration and social interaction.

Situated learning theory is an emerging theory that is particularly applicable to teaching. It combines the important factors of project based learning and problem solving. In addition, it utilizes domain specific knowledge in that collaborative learning occurs within a given situation.

The theory of situated learning has been more fully developed by Brown, Collins, and Duguid. They agree with Lave's ideas about social interaction. They also contend that learning in the classroom is advanced by the social construction of knowledge. Likewise, activities that involve students' use of cognitive tools together aides in the learning process.

Vygotsky presented a social cognition theory that is relevant to this study as well. He first developed this theory to explain the way humans learn language. Later, he applied his theories to all aspects of learning. His key points are that cognitive development results from a process where a child learns through shared problem solving with a peer. Social interaction plays a key role in cognitive development.

His ideas explain the way humans learn language only by learning from and practicing with others. Other people's reactions can give meaning to someone's actions. In addition, the action of talking to a peer reinforces the learning that has just occurred.

He theorizes that every function of development in a child, including attention, logic, memory, and conceptualization appears first on the social level and then becomes intrapsychological. In other words, every facet of learning is first seen as a function of interacting with others, and only after this social interaction is that function an ability of the child alone.

Vygotsky hypothesizes that there is a limited span in which cognitive development can be completed, which he calls the zone of proximal development. Full development during this zone depends on full social interaction. And, he believes the range of skill acquired from peer collaboration surpasses what can be obtained alone. Children can accomplish more within groups than they can on their own.

Definitions

Cooperative Learning means the gaining of knowledge that results from two or more students working together in the classroom.

Individual Learning refers to the attainment of knowledge through teacher instruction and individual practice in a classroom.

Academic Performance involves the grades on tests that are achieved by each individual student.

A Group includes two or more students who work together to complete a task.

Inclusion Students are students who learn in a normal, mainstream classroom who are classified as mentally, physically, or emotionally handicapped.

Classified Students are students who learn in both the regular classroom and a special education classroom. They may also receive in-class support by a special education teacher or aide.

Assumptions

For this study, the assumption was made that each lesson included material at the same difficulty levels every day. Furthermore, the assumption was made that each test was at the same difficulty level, and were administered and scored in the same standard way.

Assumptions were made about the stability of each student across situations and over time in that they did not vary greatly in their ability to learn or take exams. In addition, it was assumed that there was the same amount of help given by the teacher for each group as well.

Limitations

The small sample size was a major limitation of the study because the second grade class contained only twenty-one students. The geographic area of the school

caused the sample group to be too homogeneous. Almost all of the students were Caucasian, Christian, and lower-middle class 7 or 8 year olds.

Another limitation is in the differentiation in intellect among the students before these learning styles were implemented. Some students were on a different level of ability than others. In addition, there was a difference in controlled behavior among the students in that a few were diagnosed with Attention Deficit Hyperactive Disorder and some were on various medications.

Summary

In the next chapter there will be a discussion of the supporting literature. Many journal article studies will be examined and related to this study. The design of the experiment will follow, along with the results and a discussion.

Chapter 2

There are many research articles presenting findings about cooperative learning versus individual learning. There are studies supporting both individual and cooperative learning styles. This information ranges from non-academic areas to specialty areas in education and includes many different settings, grade levels, and subjects.

Individual Learning

There are some studies that have been conducted wherein the results support individual learning styles over cooperative learning styles. Researchers have found that the cooperative learning style may hinder some parts of learning or specific people among the groups in cooperative learning situations

Jenkins and O'Connor, (2003) review the research on cooperative learning for students with learning disabilities. This comprehensive review included different academic areas such as math, writing, and reading. The results suggest that peer assistance and group learning may not be beneficial to students with learning disabilities. Some disabled students had trouble keeping up with regular education students. The reading requirements were too high for those with a learning disability, but not for non-learning disabled students. This difference hindered the group learning experience. Only 4% of the learning disabled students participated in cooperative learning groups with success. (Jenkins & O'Connor, 2003)

Next, a study by Crooks et al, (2003) investigated the effects on interactions, attitudes, achievement, and practice time for students with access to learner-controlled options. The students working in groups spent longer practicing and did not achieve higher scores than independent learners. (Crooks et al, 1998)

A peer rating system was designed to account for individual performance in two sophomore level chemical engineer courses. These students were required to work in cooperative learning groups. Each team member rated how well his or her teammates performed. The results from this study indicate that many students formed dysfunctional teams. Some students were rated as doing little work while other students were observed doing most of the work. (Kaufman & Felder, 2000)

A different experiment was performed using cooperative learning in three fifth-grade classrooms. The students were separated into groups of eight to create an art project. The results may indicate that group learning hinders their creative process. Furthermore, rights to ownership were challenged. (Aukerman, 1997)

Lastly, the impact of individual feedback was compared with the impact of group feed back on achievement, attitudes, and behavior in cooperative learning groups. Fifty-six eighth grade students worked in heterogeneous cooperative learning groups for an eleven-week period. Participants received either individual or group feed back in written form on how frequently they engaged in praising, supporting, asking for help, and exchanging information. Individual feedback was more effective than group feed back in increasing students' achievement, motivation, influence, and uniformity. Individual feedback resulted in more positive relationships among group members. In addition,

individual feedback created more positive attitudes toward subject matter, the teacher, peers, and themselves. (Archer-Kath, Johnson, and Johnson, 1994)

Non-Academic Areas of Group Learning

Investigations have taken place where non-academic areas of learning were examined. Cooperative learning seems to be beneficial in areas other than education, such as in the training of office workers, military personnel, and nurses.

First, a class of navel air traffic control trainees participated in a cooperative learning environment for their training. This class was compared to fifty other classes who were trained in an individual learning environment. Two examinations about technical information were given. Also, attitudes and verbal communication were observed and reported. The cooperative learning condition resulted in greater learning of information, greater independent functional ability, and a zero-failure rate. There were also more favorable ratings of the instructor in the cooperative learning environment. (Vasquez et al, 1993)

In addition, observations were made of team navigation in a large navel vessel. This study involved distributed activities in small groups. The results revealed some individual errors along with successful detection and correction of these errors. The cooperative system enabled multiple perspectives for error detections. The distributions of knowledge across each team insured a low system output error. (Seifert & Hutchins, 1992)

Research was performed on the learning that people achieved during co-op work placements. This was a longitudinal study that began with a survey of recent graduates

from college. Then, interpretive methods were used during one-on-one interviews with the workers. Results support that that learning is a social process and that the environment of the workplace and the co-workers are critical to shaping the particular learning that the workers can achieve. (Eames, 2000)

Magney, (1997) researched the effects of cooperative learning on the attainment of technical information. He reports that the best size for any classroom, educational or otherwise, is relatively small. He presented a number of activities that were successfully organized and affective when done in groups. He felt that his students benefited from small group work and that his students were able to grasp more difficult information when they were working in small groups. Skills in communication, conflict resolution, and decision-making were also some of the cooperative learning benefits. Furthermore, he felt that cooperative learning is emphasized much more today in the work place, so these skills are important to attain. (Magney, 1997)

Tyson, (1994) explores the importance of experiential learning in facilitating the transition of new graduates into the work place. She found that creative, cooperative programs aided the people entering their jobs. She believed that the roll of diversity and teamwork supported students entering the American work force under such economic conditions. (Tyson, 1994)

Choi et al, (2003) studied the self-efficacy beliefs from individuals in 169 training groups attending a workshop for their jobs. They define self-efficacy as a significant predictor of goal setting, effort placed in a task, behavioral choices, and performance. They examined the degree of change in participants' job-efficacy before and after the

cooperative workshop. The results support that a group-learning climate facilitated job-efficacy both on the individual level and cross level processes. (Choi et al, 2003)

Furthermore, Chen, (2002) performed a study to determine the preferred learning styles of students based on gender. The study analyzed the preferred teaching styles of teachers as well and compared them to the students' preferences. The population studied consisted of teachers and fourth-year nursing students and the Chung-Hua Institute of Medical Technology in Taiwan. Reid's perceptual learning style Preference Questionnaire was used on sixty-six teachers and sixty-six students. A one-way ANOVA and Tukey's HSD tests were used to analyze the data. The results support that students' least favorite learning style was individual. Furthermore, teachers reported using group work as their most preferred teaching style. (Chen, 2002)

Lou, Abrami, and D'Apollonia (2001) performed an extensive meta-analysis on the empirical research done on small group versus individual learning when students learn using computer technology. 122 studies were quantitatively synthesized totaling 11,317 participants in all. Weighted least squares univariate and multiple regression analysis were used to analyze the data. Results indicate that small group learning was significantly more beneficial, on average, than individual learning. Small group learning positively impacted students' individual achievement, task performance, and affective outcomes. (Lou et al, 2001)

School Subjects and Group Learning

Group learning has been examined in many academic areas. It has been supported in its effectiveness in different subjects of learning. These school subjects include math, reading, language, sciences, and more.

Whicker et al, (1997) investigated the effects of cooperative learning in a mathematics class. Students in one pre-calculus class learned in cooperative groups while students in a separate pre-calculus learned the same material independently. Students in the cooperative learning group had significantly higher chapter test scores than the students in the independent learning group. Furthermore, a student survey revealed favorable responses from the cooperative learning group. (Whicker et al, 1997)

In a study pertaining to a biology laboratory course, students performed cooperative group learning. The results support the effectiveness of the cooperative learning style. The biology students were encouraged, active, and student directed. (Colosi & Zales, 1998)

Next, a longitudinal study was performed on chemical engineer students over five consecutive semesters. These students were taught in a cooperative learning style and compared to students in an individual learning comparison group. The students who learned cooperatively out-performed the comparison group on retention, graduation, and pursuance of advanced study in the field. (Felder et al, 1998)

Chang and Mao studied the difference between cooperative and individual teaching methods on earth science students. The findings supported the use of cooperative learning methods. Improvement in student achievement was observed at higher-level cognitive domains. (Chang & Mao, 1999)

Cooperative learning was also examined in a literature based reading classroom. The experimental results support cooperative learning for literature-based projects. The students reported literary growth, boosted confidence, and developed social skills after the study. (Renegar & Heartling, 1993)

Next, a study was conducted to examine students studying health sciences in a cooperative learning environment. The findings support that a sense of community and cooperation enabled risk taking. A connected understanding of health science concepts followed the group learning instruction. (Lundeberg & Moch, 1995)

A group of grade school students was taught mathematics using the cooperative learning method. Their individual test scores were compared to grade school students who learned mathematics individually. The classes that used cooperative learning contained students who scored much higher on their individual tests. (Shaw et al, 1997)

In addition, 170 physical therapist students participated in a study comparing lectures to group learning. Course grades were found to be higher in the group learning sections than those in the lecture sections. (Lake, 2001)

Lopata, Miller, and Miller (2003) investigated the teachers' view of cooperative learning. They surveyed 142 exemplar teachers to see the frequency of use and the attitudes about the cooperative learning style of teaching. In addition, Lopata et al examined the individual characteristics of each teacher to locate an association with relative use of group learning in the classroom. They found that many of the teachers reported using cooperative learning in their classrooms. Also, the analysis indicated an association between the high frequency of using group learning with high participation in staff development for cooperative learning. (Lopata et al, 2003)

College and Graduate Level Group Learning

This section explores the experiments that have been performed using college and graduate school students. These studies support the advantage of using cooperative learning among younger and older adults who are still in school.

A meta-analysis was performed on undergraduate science, mathematics, engineering, and technology courses since 1980. This analysis demonstrated that various forms of group learning were effective in promoting great academic achievement, favorable attitudes toward learning, and increased persistence. (Springer, 1999)

Next, 107 students who were freshman athletes were required to participate in night study sessions. The students completed academic assignments and studied together in cooperative learning groups. Later, three questionnaires were given to a sample of fifty of the student athletes. The responses reported the students felt highly task oriented, confident of their academic ability, and involved in positive relationships with their peers. (Dudley et al, 1997)

Students enrolled in an on-line masters program participated in virtual team learning. This study found that collaboration on-line is effective in accomplishing group tasks. In addition, the results present the leadership role to be shared among team members. (Johnson, 2002)

Another investigation was designed to evaluate learning processes and productivity during individual and cooperative clinical education experiences. Clinical instructors and students were engaged in an individual-learning working experience. Patient care, administration, and teaching were examined. Questionnaires were used to evaluate the teaching and learning processes. The same information was provided to a

comparable group engaged in a cooperative learning experience. Findings showed instructors in both experiences had to reduce their levels of productivity to supervise students. The students, however, compensated for this reduction. The productivity gains in cooperative learning were greater. (Ladyshevsky et al, 1998)

Finally, 576 introductory psychology college students were placed in one of two separate conditions. The control group took their examinations individually while the other group of participants completed their tests with a partner from class. Exam performance was significantly higher when students worked cooperatively compared to those who worked alone. The cooperative team testing had a robust effect size of .80. (Zimbardo et al, 2003)

In addition to higher test scores, the students who worked in teams also reported many positive feelings during and following the work. These participants felt less test anxiety, more confidence, and increased enjoyment of the course and subject matter. Furthermore, the teamed students reported an attitude of irrelevance to cheating on their exams. (Zimbardo et al, 2003)

Grade Level and Group Learning

In addition to college level studies, some students from other grade levels have participated in studies regarding learning styles. These next few studies examine the profits of using cooperative learning from grades one through twelve.

First-grade students were given peer assisted learning strategies in this first study. Ten classrooms were randomly assigned to peer assisted or non-peer assisted groups. After sixteen weeks, teachers judged the peer assisted learning strategies to be effective

for students with and without disabilities. Teacher-completed questionnaires revealed favoritism towards the group learning because of its effectiveness and feasibility. (Fuchs et al, 2002)

Next, an intervention model of cooperative learning was implemented and tested on three campuses of an urban alternative high school. The results indicated that cooperative learning increased social support. There were changes in students' interpersonal relations, which lead to decreased victimization, higher self-esteem, and positive attitudes. Less depression and anxiety, enhanced internal locus of control, and greater academic achievement resulted from cooperative learning. (Zhang, 1994)

In addition, Gilles, (2003) evaluated 220 eighth-grade students as they worked in either structured or unstructured groups during math, science, and English. She investigated participants' behaviors, interactions, and perceptions of learning in small groups. The students worked in four person groups that were gender balanced and heterogeneous. The results support that children in the structured groups were more cooperative, more assistant, and gave more relevant verbal help than those in the unstructured learning groups. The students reported strong perceptions of small group work as being enjoyable and producing quality work. (Gillies, 2003)

An observational, field-based study was preformed on eighteen elementary school classes, grades two through sixth. The teachers of these classrooms were experienced users of cooperative learning and were observed and interviewed on multiple occasions. Comparisons were made between more and less successful lessons based on assessments of student engagement, performance, and behavior. Lesson success was associated with group learning rather than individual learning. (Emmer and Gerwels, 2002)

Fifty-two fifth-graders were trained in cooperative group behaviors and examined two years later. These children were placed in cooperative learning groups during specific lessons and evaluated. The results showed a residual training effect, with the children being very cooperative and helpful with their peers. (Gillies, 2002)

Areas of Special Education and Group Learning

In addition to the many grade levels and academic areas that have been investigated, many studies have taken areas of special education into consideration. Sometimes special needs students differ from the norm when it comes to learning style, but these studies support just the opposite: cooperative learning may be even more beneficial to these students. Their special needs may include a learning, physical, or mental disability, and includes inclusion and remedial students.

First off, Putnam and Brookes, (1993) wrote about cooperative learning strategies for inclusion students. They felt that the application of cooperative learning positively affected the instruction, behavior management, and the development of classroom communities of diverse students. They stress that fairness and a sense of community stemmed from cooperative learning and were great benefits for the diverse inclusion students. (Putnam & Brookes, 1993)

Butler, (1999) explored the effects of class-wide peer tutoring on the acquisition of sight words. The participants were students in a class containing fourth and fifth-grade students with mild to moderate disabilities. After the peer tutoring and cooperative learning occurred within the classroom, all students gained about one grade level in sight word recognition in just eight weeks. Furthermore, the fourth and fifth-graders reported

amiable feelings towards the other students and about the group learning process. (Butler, 1999)

In addition, during an eight-month study, the effects of cooperative learning on 417 regular education students' acceptance of forty-one special education classmates were examined. The participants included fifth, sixth, seventh, and eighth- grade students. The conditions included cooperative or competitive learning styles. The regular education students rated each classmate's desirability as a work partner at the beginning and at the end of this study. Positive changes in peer ratings for both types of students occurred much more frequently after the cooperative learning condition compared to before cooperative learning and after competitive learning. (Putnam et al, 1996)

Twenty-one general education classroom teachers were interviewed about their experiences with cooperative learning. All teachers reported positively about cooperative learning's ability to enhance learning for remedial students and students with learning disabilities. Some of the benefits that were reported included higher self-esteem, a safer learning environment, and better classroom success rates and products. (Jenkins et al, 2003)

In conclusion, there were many studies that support the use of cooperative learning in all environments. Many experiments and journal articles have provided results indicating group learning as more affective in training, primary school, high school, college, and special education. Although some articles support individual styles of learning, the evidence that has been presented clearly favors cooperative learning in any situation or subject.

Chapter 3

Sample

Data were collected from twenty-one second-grade students at Bellmawr Park Elementary School in South Jersey. The group consisted of eleven boys and ten girls, ages seven and eight years old. The classroom contained four African Americans and seventeen Caucasians. In addition, ten of the students are classified with Individual Education Plans (IEP's) and participate in special education for reading and mathematics.

The teacher of the second-grade classroom during this study was the same 63-year old female teacher that the students have had since their first day of second grade. She has been a teacher for over 40 years and she uses several methods of teaching styles throughout each school year.

Measures

The only measures for this study were the individual grades received by each student on their weekly examinations. There were eight tests in all for each participant. Each exam contained 5 multiple choice, 5 true and false, and 5 short answer questions. The students were given 45 minutes to complete their tests. Students' scores were coded by letters to keep the names of the children anonymous.

Design

Each week, the students were given daily science lessons on Monday through Thursday for 55 minutes per day. On Friday, they were given a test that covered the weekly science lesson.

The study lasted for eight weeks. For the first two weeks, students were taught their science lesson using the individual instruction method of teaching. During the next two weeks, students learned science through group learning. They then switched to individual learning again for weeks five and six, and then back to cooperative learning for the final two weeks.

The individual learning method was used during weeks one, two, five and six. During these weeks the children sat at their separate individual desks during each sciences lesson. The lesson comprised of lecture, worksheets, and bookwork for each student. The students all listened to the lecture at the same time but all work was done at the individual level.

The cooperative learning method was used during weeks three, four, seven, and eight. The students were seated in four groups of four and one group of five with the desks pushed together. The groups were chosen by the teacher to ensure heterogeneity and remained the same throughout the study. The students in each group were assigned a role for the week and the roles rotated within groups throughout the study. The roles included writer, illustrator, speaker, and timer. The role of timer was shared between two group members for the group containing five students. The groups were given a book assignment to complete and present to the class.

Testable Hypothesis

The dependant variable for this study was the individual grade each student received on his or her weekly exams. The independent variable was the method of instruction (individual versus group learning).

The null hypothesis stated that students' grades would not significantly rise after group learning compared to their individual learning styles. The alternate hypothesis states that the students' grades after group learning will be significantly higher than the grades they received after the individual learning lessons.

Analysis

A repeated-measures T-test was used to analyze the data. The same group was examined while the two conditions were compared.

Summing up, weekly examinations were used to compare the effects of individual and group learning. Twenty-one second-graders were taught science lessons individually and cooperatively and then tested. The weekly test grades were then analyzed to determine if there were any significant differences between the two teaching styles.

Chapter 4

Restatement of Hypothesis

The null hypothesis states that there will be no significant difference in individual test scores between the group and individualized instruction conditions. The alternate hypothesis states that the individual test scores in the group learning condition will be higher than the scores from the individual learning condition.

Results

The null hypothesis is rejected because a significant difference was found between the group and individual learning conditions ($p < .001$). Specifically, the group learning condition yielded significantly higher grades compared to the individual learning condition, with an average score of 94 %. The individual learning condition grade average was about 79%. The results yielded a difference of almost fifteen percentage points on the tests between both conditions.

Most students received a 'B' or a 'C' letter grade on their tests after individual instruction. A few of the inclusion students even failed these tests. However, most students received a perfect score when they were tested after learning occurred in a group. See Table 4.1.

In addition, a vast improvement in grades was seen in the ten inclusion students. Their test grades after individual learning were low. The greatest improvement in scores was seen with the inclusion students after they learned cooperatively. The average test

score of these ten inclusion students was 70% during the individual learning conditions. However, after the cooperative learning took place, their average moved up to a score of about 93%. The two conditions produced a twenty-three-point grade difference for these special needs students. See Table 4.2.

Summary

Summing up, the null hypothesis was rejected because there was a statistically significant difference found between the test scores for the two conditions. Results indicate a higher average grade was found in the group learning condition, ($p < .001$). There was almost a fifteen-point difference in scores between the two conditions. This huge jump in scores supports group instruction as a more effective means of learning than is the traditional individual lecture-based instruction.

Table 4.1

Individual Vs. Group Test Scores

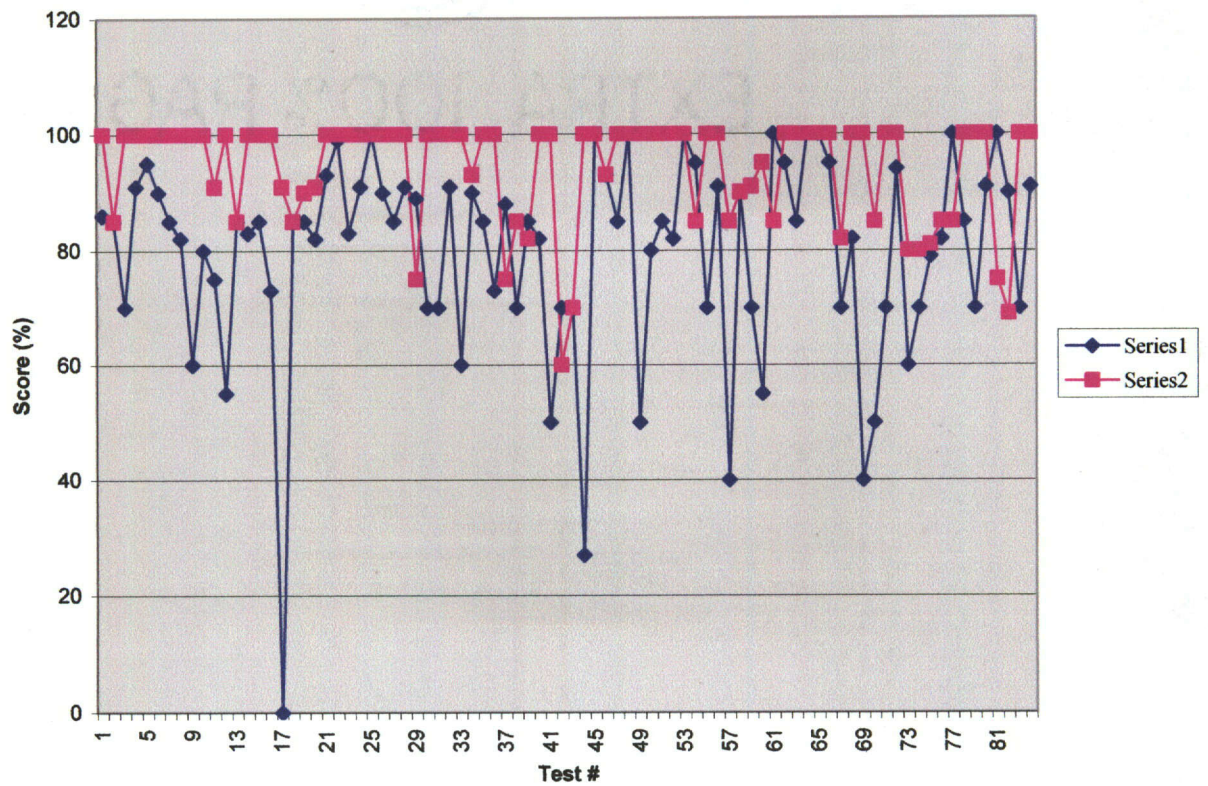
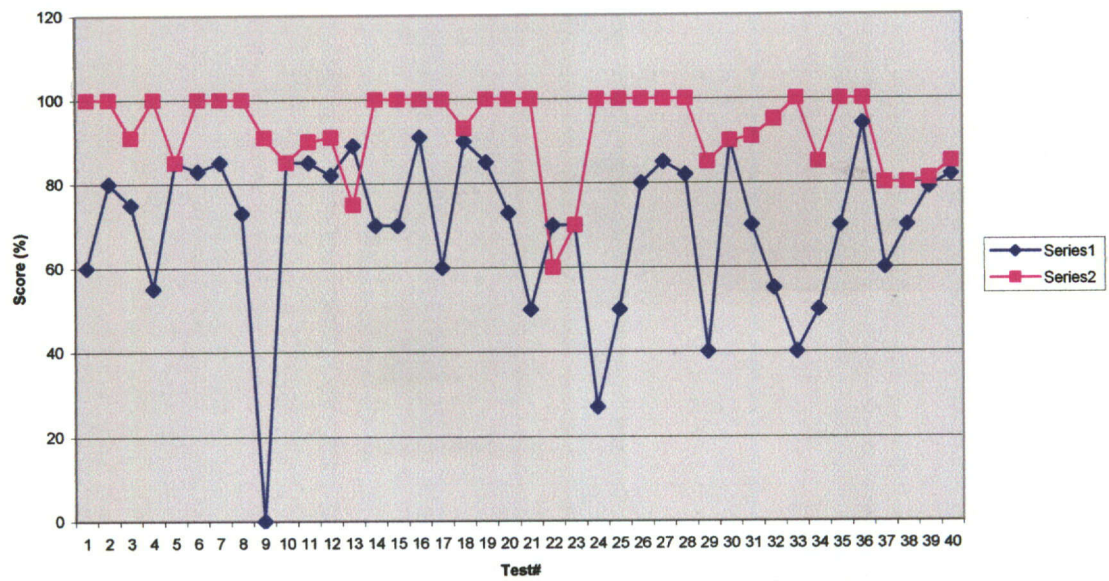


Table 4.2

Individual Vs. Group Scores for IEP Students



Chapter 5

Summary

It is clear that instructors of all kinds would like to find the ideal teaching method. Classroom teachers who have classified, inclusion, or talented and gifted students face an even greater challenge when choosing a teaching style. There was a need for this study to add to the conflicting literature about the effects of specific teaching styles.

In addition, there have been few studies performed on the learning styles of special education students who do most of their work in a mainstream classroom. Previous research produces mixed results when comparing individual and group styles of teaching. There are many previous studies that support both styles of instruction in the classroom and elsewhere.

This study investigated cooperative learning based on the theories of Michealson, Lave, and Vygotsky, whom have contributed greatly to the study of cooperative learning. Michealson developed the team-learning model after discovering his own students benefited academically from cooperative learning. Also, Lave's situated learning theory asserts that social interaction is one of the most important factors involved in learning. Vygotsky's social learning theory basically states that cognitive development relies on cooperative problem solving and peer interaction.

The hypothesis for this study states students' individual academic scores will be higher after group instruction compared to their scores after individual instruction. To support this, a small second-grade classroom in a suburban public school was used to

analyze individual and group learning styles. For eight weeks the students alternated between these two learning approaches through either a traditional lecture or a collaborative learning environment.

Individual weekly test scores from each student were analyzed using a T-test. The results showed a statistically significant difference between the two conditions. The group learning condition produced test scores that were, on average, fifteen points higher than the individual learning scores. Furthermore, the inclusion students seemed to benefit the most because their average test scores went up by about twenty-three points.

Conclusions

A statistically significant difference was found between the group and individual learning conditions. Students' weekly scores were found to be higher after a week of collaborative instruction. Students were able to retain and reiterate more accurate information after working in small groups with one another. High test scores were strongly correlated with the group work, while lower test scores were correlated with individualized learning.

These statistical differences show support for the cooperative learning method. The very same students who scored low on their tests after individual instruction scored high on their tests after learning in a small group with their peers.

The great rise in the special education students' grades supports that group learning may be especially beneficial to inclusion students. Students with attention deficits, learning disorders, and emotional problems seemed to progress toward the mean when working with their "normal" peers.

Discussion

In accordance with many social theories, social interaction and collaboration seemed to have many advantages for this second-grade classroom. While many teachers use different styles of teaching and students have different styles of learning, group work greatly improved test scores for these students, and could for many others. Receiving different input, opinion, and knowledge from peers may be quite beneficial for any learning environment.

Teachers who are searching for a teaching style that is most advantageous for his or her students may want to take note of these results and the results of other group learning studies. As the number of inclusion students in mainstream classrooms rises, finding the ideal teaching method for all becomes more difficult. Adding small group work into weekly lesson plans may be the key to helping students achieve the very best.

Many classrooms today now contain students with special needs. As the needs of students change, styles of learning may change. It is then appropriate to make an educated choice about one's teaching styles.

Social interaction can help children academically, but many studies have found it can also raise self-esteem, promote togetherness, and allow children to learn how to work on a diverse team to reach a goal. Furthermore, it has been documented that many students enjoy group work and prefer it to individualized instruction.

Learning certainly does not end when school is over, and we have seen from previous studies that different areas of work require cooperative learning for their training and/or job. Group learning can be a fun way for students to prepare themselves for the future.

Implications for Further Study

It would be beneficial to replicate this study using a larger sample of students ranging in age, socioeconomic status, intelligence, and ability to learn. Results would then better represent the general population. In addition, it would be interesting to add the variable of motivation to see what affect it has on learning.

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